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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Baker Botts LLP
2001 Ross Avenue
Dallas, TX 75201-2980

EXAMINER

MILLS, DONALD L

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 11/05/2003

Handwritten number 3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/626,549

Applicant(s)

MILBRANDT, CELITE

Examiner

Donald L Mills

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8-10, 12, 15-17, 19, 20, 23, 24, 26, 27, 29, 30, 32-36 and 38 is/are rejected.
- 7) ☒ Claim(s) 5, 7, 11, 13, 14, 18, 21, 22, 25, 28, 31, 37 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 32-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 32, the claim specifies *the system of claim 28, the spectral management message*. However, claim 28 makes no mention of *the spectral management message*.

Therefore, *the spectral management message* lacks proper antecedent basis. For the purpose of this examination, the examiner will interpret this claim as depending on claim 29.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 16, 17, 19, 23, 27, 29, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Fernandez et al. (US 4,893,305), hereinafter referred to as Fernandez.

Regarding claims 16 and 23, Fernandez discloses a multiplexed modem, which comprises:

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Coupling a digital subscriber line access multiplexer to a spectral management channel (Claims 16 and 23) (Referring to Figure 1, the multiplexers communicate data via the transmission channel 13. See column 5, lines 4-6,)

Transmitting (Claim 16)/Receiving (Claim 23) a spectral management message over the spectral management channel (Referring to Figure 1, the multiplexer is reconfigured to a new mux configuration, which inherently requires transmission and reception between both multiplexers over the transmission channel in order to configure both multiplexers appropriately. See column 6, lines 9-13,) *the spectral management message comprising information related to a training of a digital subscriber line modem by a carrier* (Referring to Figure 1, responding with a synchronizing sequence concluding a handshake, when received from the master modem 10, which inherently requires a carrier for transmission and reception between modems. See column 6, lines 39-41.)

Regarding claims 17, 19, 27, and 30; Fernandez discloses *wherein the spectral management message comprises a training message, the training message operable to indicate that the carrier has at least received a request to train the digital subscriber line modem (Claims 17, 27, and 30)/further comprising training the digital subscriber line modem (Claim 19)* (Referring to Figure 1, a drop code and new multiplexer configuration are transmitted from the slave modem 12 when a drop code is detected, which inherently requires a carrier for transmission and reception between modems. See column 6, lines 32-35.)

Regarding claim 29, Fernandez discloses a multiplexed modem, which comprises:

A computer readable medium (Referring to Figure 1, data pump 32, inherently utilizes a buffer to process data. See column 5, lines 5-6.)

Software encoded on the computer readable medium, the software operable when executed (Referring to Figure 1, data pump 32, inherently utilizes software to receive and transmit data stored in its buffer. See column 5, lines 5-6,) *to transmit and receive a spectral management message over a spectral management channel, the spectral management message comprising information related to a training of a digital subscriber line modem by a carrier* (Referring to Figure 1, responding with a synchronizing sequence concluding a handshake, over channel 13, received from the master modem 10, which inherently requires a carrier for transmission and reception between modems. See column 6, lines 39-41.)

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fernandez et al. (US 4,893,305), hereinafter referred to as Fernandez, in view of Fluss (US 6,304, 578 B1).

Regarding claim 1, Fernandez discloses multiplexed modem, which comprises:

A plurality of digital subscriber access multiplexers (Referring to Figure 1, four port multiplexers 30 and 36 that interface with data terminal equipment (DTE) 20, 22, and 24. See column 4, lines 64 and 42-43; and column 5, line 9.)

Each digital subscriber line access multiplexer operable to transmit and receive at least one message (Referring to Figure 1, the multiplexer is reconfigured to a new mux configuration,

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which inherently requires transmission and reception between both multiplexers in order to configure both multiplexers appropriately. See column 6, lines 9-13,) *the message comprising information related to a training of a digital subscriber line modem by a carrier* (Referring to Figure 1, respond with a synchronizing sequence concluding a handshake, when received from the master modem 10, which inherently requires a carrier for transmission and reception between modems. See column 6, lines 39-41.) Fernandez does not disclose *a communication channel coupling the plurality of digital subscriber line access multiplexers*.

Fluss teaches a central office 203 comprising an Ethernet hub 204, which connects to a plurality of DSL access multiplexers (DSLAM) 205 (See Figure 1, column 5, lines 17-18 and 21,) for receiving control packets for setting up or tearing down connections (See column 7, line 28.) Fluss further teaches that users may experience unwanted jerky and choppy displays that are annoying and frustrating due to long periods between data bursts (See column 2, lines 61-65.) In addition Fernandez teaches that it is often desirable to reconfigure the channel or port management in order to increase the system's efficiency (See column 5, lines 22-24.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the dynamic port allocation system of Fernandez in the xDSL network of Fluss. One of ordinary skill in the art would have been motivated to do so in order to realize increased system efficiency in a DSL network.

Regarding claim 2 as explained above in the rejection statement of claim 1, Fernandez and Fluss disclose all the claim limitations of claim 1 (parent claim). Fernandez and Fluss do not disclose *the communication channel comprising a 10/100 base-T Ethernet connection*.

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Fluss teaches a central office **203** comprising an Ethernet hub **204**, which connects to a plurality of DSL access multiplexers (DSLAM) **205** (See Figure 1, column 5, lines 17-18 and 21.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the Ethernet hub of Fluss with a 10/100 base-T Ethernet connection. One of ordinary skill in the art would have been motivated to do so because 10/100 base-T Ethernet connections are well known in the art and unexpected results are not produced.

Regarding claim 3 as explained above in the rejection statement of claim 1, Fernandez and Fluss disclose all the claim limitations of claim 1 (parent claim). Fernandez and Fluss do not disclose *wherein each digital subscriber line access multiplexer comprises 10/100 base-T Ethernet port.*

Fluss teaches a central office **203** comprising an Ethernet hub **204**, which connects to a plurality of DSL access multiplexers (DSLAM) **205** (See Figure 1, column 5, lines 17-18 and 21.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement 10/100 base-T Ethernet ports in the DSLAMs of Fluss. One of ordinary skill in the art would have been motivated to do so because 10/100 base-T Ethernet connections are well known in the art and unexpected results are not produced.

Regarding claim 4 as explained above in the rejection statement of claim 1, Fernandez and Fluss disclose all the claim limitations of claim 1 (parent claim). Fernandez further discloses *wherein each digital subscriber line access multiplexer is operable to transmit a training message* (Referring to Figure 1, responding with a synchronizing sequence that concludes a

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handshake, when received from the master modem **10**, when communicating with DTEs **20**, **22**, and **24**. See column 6, lines 39-41,) *the training message operable to indicate that the carrier has at least received a request to train the digital subscriber modem* (Referring to Figure 1, a drop code and new multiplexer configuration are transmitted from the slave modem **12** when a drop code is detected. See column 6, lines 32-35.) Fernandez does not disclose *a communication channel*.

Fluss teaches a central office **203** comprising an Ethernet hub **204**, which connects to a plurality of DSL access multiplexers (DSLAM) **205** (See Figure 1, column 5, lines 17-18 and 21,) for receiving control packets for setting up or tearing down connections (See column 7, line 28.) Fluss further teaches that users may experience unwanted jerky and choppy displays that are annoying and frustrating due to long periods between data bursts (See column 2, lines 61-65.) In addition Fernandez teaches that it is often desirable to reconfigure the channel or port management in order to increase the system's efficiency (See column 5, lines 22-24.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the dynamic port allocation system of Fernandez in the xDSL network of Fluss. One of ordinary skill in the art would have been motivated to do so in order to realize increased system efficiency in a DSL network.

7. Claims 20, 24, 26, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fernandez et al. (US 4,893,305), hereinafter referred to as Fernandez, in view of Cole et al. (US 6,246,754 B1), hereinafter referred to as Cole.

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Regarding claims 20, 24, and 32 as explained above in the rejection statement of claims 16, 23, and 29; Fernandez discloses all the claim limitations of claims 16, 23, and 29 (parent claim). Fernandez does not disclose *wherein the spectral management message comprises a distress message, the distress message operable to indicate that the digital subscriber line modem violates at least one compliance guideline (Claims 20, 24, and 32).*

Cole teaches a mechanism for changing a modem's connection rate when one modem observes that a substantial amount of jitter has arisen on the line, which inherently comprises transmitting a distress message indicating the new condition, which requires retraining (See column 6, lines 24-30.) Cole further teaches that the request may be made as a result of changing line conditions, changing system demands, changing data transfer requirements, or other altered conditions under which the modems are operating (See column 2, lines 12-15.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the mechanism for changing a modem's connection rate of Cole in the system of Fernandez. One of ordinary skill in the art would have been motivated to do so in order to compensate for changing conditions on the communications line.

Regarding claim 26 as explained above in the rejection statement of claim 23, Fernandez discloses all the claim limitations of claim 23 (parent claim). Fernandez does not disclose *retraining the digital subscriber line modem in response to receiving the distress message.*

Cole teaches a mechanism for changing a modem's connection rate when one modem observes that a substantial amount of jitter has arisen on the line, which inherently comprises transmitting a distress message indicating the new condition, which requires retraining (See column 6, lines 24-30.) Cole further teaches that the request may be made as a result of

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changing line conditions, changing system demands, changing data transfer requirements, or other altered conditions under which the modems are operating (See column 2, lines 12-15.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the mechanism for changing a modem's connection rate of Cole in the system of Fernandez. One of ordinary skill in the art would have been motivated to do so in order to compensate for changing conditions on the communications line.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fernandez et al. (US 4,893,305), hereinafter referred to as Fernandez, in view Fluss (US 6,304, 578 B1) in further view of Cole et al. (US 6,246,754 B1), hereinafter referred to as Cole.

Regarding claim 6 as explained above in the rejection statement of claim 1, Fernandez and Fluss disclose all the claim limitations of claim 1 (parent claim). Fernandez and Fluss do not disclose *wherein each digital subscriber line access multiplexer is operable to transmit a distress message over the communications channel, the distress message operable to indicate that the digital subscriber line modem violates at least one compliance guideline.*

Cole teaches a mechanism for changing a modem's connection rate when one modem observes that a substantial amount of jitter has arisen on the line, which inherently comprises transmitting a distress message indicating the new condition (See column 6, lines 24-30.) Cole further teaches that the request may be made as a result of changing line conditions, changing system demands, changing data transfer requirements, or other altered conditions under which the modems are operating (See column 2, lines 12-15.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the mechanism for changing a modem's connection rate of Cole in the network of Fluss. One of ordinary skill in the art would have been motivated to do so in order to compensate for changing conditions on the communications line.

9. Claims 8-10, 12, 15, 35, 36, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (US 6,246,754 B1), hereinafter referred to as Cole, in view of Chin et al. (US 6,343,077 B1), hereinafter referred to as Chin.

Regarding claims 8, 10, 12, 35, 36, and 38; Cole discloses a mechanism for changing a modem's connection rate, which comprises:

A controller operable to receive a first spectral management message (Claim 8)/Means for generating and receiving at least one spectral message (Claim 35) (Referring to Figure 1, the microprocessor 30 sends and receives signals over the data line, which inherently comprise training messages generated by the training 112 phase. See column 2, lines 57-58 and column 3, lines 63-65,) the spectral management message comprising information related to a training of a digital subscriber line modem over one of the subscriber lines (Claims 8 and 35) (Referring to Figure 2, a handshaking procedure 110, which comprises training 112 phase, for an xDSL modem which inherently transmits and receives over a digital subscriber line. See column 3, lines 44-45, 64, and 34-35.)

An interface coupled to the controller and operable to receive the spectral management message over a spectral management channel (Claim 8)/Means for coupling the processing means to a spectral management channel (Claim 35) (Referring to Figure 1, interface 50 sends

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and receives signals over the data line, which inherently comprises transmitting and receiving training messages generated by the training 112 phase. See column 2, lines 57-60 and column 3, lines 63-65.) Cole further discloses *wherein the controller is operable to receive a training message, (Claim 10)/wherein the message comprises a training message (Claim 38), the training message operable to indicate that the carrier has at least received a request to train the digital subscriber line modem* (Referring to Figure 2, microprocessor 30 inherently receives training messages when one of the modems signal the other that retraining 150 should be performed, which inherently comprises an indication that the carrier has received a request to train the DSL modem. See column 3, lines 59-62 and 34-35.) Cole further discloses *wherein the controller is operable to receive a distress message (Claim 12)/wherein the message comprises a distress message (Claim 36), the distress message operable to indicate that the digital subscriber line modem violates at least one compliance guideline* (Referring to Figure 2, microprocessor 30 inherently receives renegotiation 160 messages when one of the modems signal the other that retraining 150 should be performed, when a different technology or bit rate is better adapted. See column 3, lines 59-62.)

Cole does not disclose *a multiplexer operable to receive (Claim 8)/means for receiving (Claim 35) signals from a plurality of digital subscriber line connections and to aggregate the signals for transmission over a high-speed backbone line.*

Chin teaches a Digital Subscriber Line Access Multiplexer (DSLAM) for connecting to multiple ADSL lines (See column 2, lines 53-56,) that connects to an ATM switch of 155 to 622 Mbps (See column 4, lines 5-7.) Chin further teaches this system reduces the number of required

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high-speed digital ports on an ATM switch thereby reducing costs (See column 1, lines 29-32 and line 48.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the modem of Cole in the system of Chin. One of ordinary skill in the art would have been motivated to do so in order to create a DSL network at a reduced cost with greater interoperability with other modems.

Regarding claim 9 as explained above in the rejection statement of claim 8, Cole and Chin disclose all the claim limitations of claim 8 (parent claim). Cole and Chin do not disclose *wherein the controller is also operable to generate a second spectral management message; and the interface is also operable to transmit the second spectral management message over the spectral management channel.*

Cole teaches a mechanism for changing a modem's connection rate when one modem observes that a substantial amount of jitter has arisen on the line, which requires retraining (See column 6, lines 24-30.) Cole further teaches that the request may be made as a result of changing line conditions, changing system demands, changing data transfer requirements, or other altered conditions under which the modems are operating (See column 2, lines 12-15.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate and transmit a second message in the system of Cole. One of ordinary skill in the art would have been motivated to do so because multiple retraining scenarios can be encountered. In addition, unexpected results are not produced.

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Regarding claim 15 as explained above in the rejection of claim 8, Cole and Chin disclose all the claim limitations of claim 8 (parent claim). Cole and Chin do not disclose *wherein the interface comprises a 10/100 base-T Ethernet port.*

Chin teaches a Digital Subscriber Line Access Multiplexer (DSLAM) for connecting to multiple ADSL lines (See column 2, lines 53-56,) that operate at 25/50 Mhz (See column 2, lines 63-65.)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement an interface comprising a 10/100 base-T Ethernet port in the system of Chin. One of ordinary skill in the art would have been motivated to do so 10/100 base-T Ethernet operates at a multiple of the 25/50 Mhz frequency and Ethernet is well known in the art.

Allowable Subject Matter

10. Claims 5, 7, 11, 13, 14, 18, 21, 22, 25, 28, 31, 33, 34, 37, and 39 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L Mills whose telephone number is 703-305-7869. The examiner can normally be reached on 8:00 AM to 4:30 PM.

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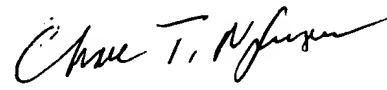
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Donald L Mills



October 21, 2003



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600